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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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David B. Alsobrook

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EXAMINER

LUONG, ALAN H

ART UNIT

PAPER NUMBER

2427

NOTIFICATION DATE

DELIVERY MODE

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ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PTOmail@sciatl.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/821,476	<b>Applicant(s)</b> ALSOBROOK ET AL.	
	<b>Examiner</b> ALAN LUONG	<b>Art Unit</b> 2427	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 07 October 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 4-6 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. In particular, claim 4 (current amended) recites “**a downstream modulator located in the headend facility for receiving the optical signals and for sending the forward signals**” (pages 3 lines 3-5). The claim as recited present a logical inconsistency such that reception of the optical signal and sending the downstream signal from the same modulator without conversion from Optical to RF. The specification does not enable one skilled in the art to receive Optical signal directly at downstream modulator located in the headend instead of ONT as disclosed in Fig. 3.

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Pub. 2002/0063924 by Kimbrough, in view of US Pat. 6,857,132 to Rakib et al.

**Regarding to claim 1:** Fig. 1 of Kimbrough illustrates **A fiber-to-the-home (FTTH) system [10] for transmitting and receiving IP signals, the FTTH system [10] including a headend facility [12] in communication with a plurality of subscriber premises [16] through Optical Network [14], (Kimbrough, ¶0050-¶0051, ¶0054) each subscriber premises [16] comprising:**

Fig. 9 illustrates a Home Network Unit [50] includes QuPlexer [52] **as an optical network terminal (ONT) for receiving downstream** as 1550nm A/V Optical signal from Optical input [174] **and** 1310nm voice and data information as **upstream IP signals** from Laser driver [162] coupled with receiver [160] and FBGA [150] which includes demodulator using 25MHz reference of PLL [152] for detecting data packets (Kimbrough, ¶0112-¶0114), the optical network terminal (ONT) [52] converts the 1550nm A/V Optical signal into RF signals routes it to **at least one digital home communications terminal (DHCT)** associated with CATV [60] or DBS [58] of Fig. 1, through connector [172] **for receiving the RF signals** for distribution on TV (Kimbrough, ¶0112).

**and** the FBGA [150] also drives Ethernet PHY [54] **for routing the IP signals to a coupled device or the FTTH system** (Kimbrough, ¶0116);

Fig. 10, 11 of Kimbrough illustrate **a receiving device** as a Home Network Unit [50] in subscriber premises [16] **for receiving downstream IP signals from the optical network terminal [52] routes to FBGA [150] and from [150] for providing upstream IP**

**signals to the optical network terminal [52] (¶0120), the receiving device comprising:**

**an Ethernet switch [54] for routing downstream IP signals** to FBGA [150] and processor [158] associated with VCXO [152] and SRAM [154] packetizes the IP data from Ethernet connection at FBGA [150] and routes to ONT [52], for converting to 1310nm upstream optical signal feed into IP backbone [44/48] back to headend [12] **(¶0120, ¶0121),**

Kimbrough fails to disclose **a modulator for receiving downstream IP video and audio signals from the Ethernet switch, the modulator for modulating the IP video and audio signals to provide RF signals;**

In an analogous art directed toward a similar problem namely improving the results from a modulator for receiving downstream IP video and audio signals. Fig. 1 of Rakib illustrates each customer premises has a gateway [28] and/or cable modem [30] **for receiving downstream IP video and audio signals** over a LAN [9], the cable modem [30] has **a modulator for modulating the IP video and audio signals to provide RF signals** to the settop decoder [18]. Incoming packets for a video program that have been requested via settop decoder 18 are encapsulated **from the Ethernet switch** or other LAN packet and routed to the appropriate settop decoder that requested the program such as settop decoder 18. (Rakib, col. 12, lines 50 to col. 13 line 20).

Therefore, it would have been obvious to one with ordinary skill in the art at the time of the invention was made to modify a FTTH system of Kimbrough with a cable modem in customer premises as taught by Rakib, in order to provide an efficiency video-on-

Art Unit: 2427

demand service over cable TV systems as well as delivery of other services such as wideband internet and T1 telephony access over cable TV systems

**Regarding to claim 2:** The FTTH system of claim 1, Fig. 1 of Kimbrough illustrates **wherein the receiving device HNU [50] for providing IP data signals as drop line [54] to a computer via a computer address.** (Kimbrough, ¶0059, ¶0116),

**Regarding to claim 3:** The FTTH system of claim 1, Fig. 1 of Kimbrough illustrates **wherein the optical network terminal for providing IP telephone signals as POT line [56] to a coupled telephone.** (Kimbrough, ¶0063-¶0064, ¶0115).

3. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over US Pub. 2002/0063924 by Kimbrough and US Pat. 6,857,132 to Rakib et al., in view of US Pat. 5481542 to Logston et al.

**Regarding to claim 4:** The FTTH system of claim 1, Fig. 1 of Rakib illustrates [12] as upstream medium **further comprises a reverse path**, comprising: **the at least one DHCT as cable modem [28] for transmitting reverse RF signals i.e. video programs through settop decoder [18] through data path [118] or [132] to headend [14](Rakib, col. 14, lines 9-31), the reverse RF signals including header information and payload data** (Rakib, col. 14, lines 9-31),

Fig. 10 of Kimbrough illustrates **the receiving device [50] includes FBGA [150], for receiving the reverse RF signals**, the FBGA 150 may be have function of a demodulator for **demodulating the reverse RF signals, and converting the demodulated signals to Ethernet signals** routes to the Ethernet switch [54]; (Kimbrough, ¶0120, ¶0121),

Art Unit: 2427

**the ONT [52] for converting the Ethernet signals to optical signals, and for transmitting the optical signals to the QOIU [20A] of headend facility [12] via optical fiber [44/48] (Kimbrough, ¶0120);** and Kimbrough also teaches “a card [20A] has an Ethernet MAC address” as **“the downstream modulator having an identification number”** (Kimbrough, ¶0108);

Fig. 1 of Rakib illustrates **a downstream modulator [46, 48 or 50] located in the headend facility [14] for sending the forward signals** in downstream path [26] (Rakib, col. 12 lines 33-49), Rakib also teaches “Incoming MPEG and IP packets for requested programs and services is recovered from the carriers and logical channels indicated in the downstream messages. The Ethernet addresses of the peripherals that requested each program and service is then looked up based upon the PID and/or IP source address or other identifying information in each incoming MPEG and/or IP or other format packet”(col. 18 lines 44-59) meets the regarding to **“the downstream modulator having the identification number, that is inserted into the forward signals”**,

However, Kimbrough and Rakib are unclear regarding “wherein the at least one DHCT inserts the received modulator identification number in the reverse header information, and wherein the receiving device converts the modulator identification number into an Internet Protocol address indicative of the modulator identification number”.

In an analogous art directed toward a similar problem namely improving the results from an Internet Protocol address indicative of the modulator identification number.

Art Unit: 2427

Fig. 5A-5C of Logston illustrate the IP packet, Message Cell AAL5 and Message Cell format are used in communication from a subscriber premises [STT 30] to Headend [112], Logston teaches **wherein the at least one DHCT [STT 30] inserts the received modulator identification number as message cell header in the reverse header information as message cell payload** (Logston, col. 14 line 37-col. 15 line 2). Each device i.e. downstream modulator, has a physical address PA and network address IPA where IPA is assigned by CMC [40] when STT 30 communicates with downstream modulator in headend [112], the PA of STT 30 and modulator need to convert into Logical network address IPA by mapping technique which is called the Boot Terminal Protocol (Logston, col. 19 line 22-col. 20 line 24) meets the limitation of “**wherein the receiving device converts the modulator identification number into an Internet Protocol address indicative of the modulator identification number**”. Therefore, it would have been obvious to one with ordinary skill in the art at the time of the invention was made to modify a FTTH system has a cable modem in customer premises as taught by Kimbrough and Rakib, with a message cell format as taught by Logston, in order to provide an interactive information services system which meets the needs and requirements of the customers using conventional communications protocols which are acceptable to the FCC as well as those in the art. It is thus desired to develop an interactive information services system which combines the best characteristics of the cable and telephone transmission systems and to incorporate such characteristics into an independent interactive information services system which will bring the digital revolution into the home.



4. Claims **5-6** are rejected under 35 U.S.C. 103(a) as being unpatentable over US Pub. 2002/0063924 by Kimbrough and US Pat. 6,857,132 to Rakib et al., in view of US Pat. 5,481,542 to Logston et al., further in view of US Pat. 7,184,664 to Farmer et al.

**Regarding to claim 5:** The FTTH system of claim 4, Fig. 3 of Rakib illustrates a subscriber premises [2] includes the receiving device further comprising:

A gateway [308] includes tuner, AID, decoder, demultiplexer and demodulation circuitry as **an upstream demodulator** [320] which performs various functions to interface the gateway to HFC 316, **a microprocessor** [328] **for converting the demodulated signals into the Ethernet signals** (Rakib, col. 23 line 61-col. 24 line 23)

Neither Kimbrough nor Rakib nor Logston teaches “the switch for receiving the Ethernet signals and any additional signals from a second source, the switch for combining the signals and for providing a combined signal to the ONT and a diplex filter for demodulating the reverse RF signals;

In an analogous art directed toward a similar problem namely improving the results from a switch for receiving the Ethernet signals and a diplex filter for demodulating the reverse RF signals, Block 513 of Fig. 8 of Farmer et al. is **a switch for receiving the Ethernet signals** from [407] send to Optical Transmitter [530] for upstream signal **and any additional signals from a second source** [555] when connecting to processor [550], **the switch for combining the signals and for providing a combined signal to the ONT.**(Farmer, col. 3, lines 29-34 and col. 21 line 43-52).

Art Unit: 2427

Fig. 9 of Farmer illustrates **a diplex filter [507] is connecting to Terminal [17] for demodulating the reverse RF signals**(Farmer, col. 23 lines 1-3, lines 53-56)

Therefore, it would have been obvious to one with ordinary skill in the art at the time of the invention was made to modify a FTTH system including a cable modem in customer premises as taught by Kimbrough, Rakib and Logston with a switch and a duplexer filter as taught by Farmer in order to provide a return path for RF signals that are generated by legacy video service terminals, propagating upstream RF packets with very low latency and jitter.

**Regarding to claim 6:** The FTTH system of claim 5, Fig. 8 of Farmer shows [550] is a microprocessor **wherein the receiving device [140] includes Digital Optical receiver [540] converts the Optical data signal into Electrical Data signal, feeds into [550] where converts the identification number into the Internet Protocol number via the microprocessor [550].** (Farmer, col. 21, lines 4-19).

### ***Response to Arguments***

5. Applicant's arguments, see Remark pages 4-8, filed 10/ 07 /2008, with respect to the rejection(s) of claim(s) 1-6 under Dolgonos and Farmer have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of US Pub. 2002/0063924 by Kimbrough and US Pat. 6,857,132 to Rakib et al.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALAN LUONG whose telephone number is (571)270-5091. The examiner can normally be reached on Mon.-Thurs., 8:00am-5pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Scott Beliveau can be reached on (571) 272-7343. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/ALAN LUONG/  
Examiner, Art Unit 2427

/Scott Beliveau/  
Supervisory Patent Examiner, Art Unit 2427